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ABSTRACT

The Union of Myanmar is one of the first signatory states of the Memorandum of Understanding on the Conservation and Management of Dugongs and Their Habitats Throughout Their Range. Dugong trails were observed on seagrass beds of Lampi and Nyaung Wee Islands of the Myeik Archipelago in Tanintharyi Region in Southern Myanmar. Occurrence of dugongs in Tanintharyi Region was reported by local people. These are important messages to formulate dugong conservation and management in Myanmar. Dugongs have been protected by Law since 1994 and they are placed under the "Completely Protected Animals" category. Effective conservation activities on dugong have not been carried out by Myanmar yet. Lack of promotion in effective and scientific management of terrestrial and marine protected areas to meet representative samples of ecosystems, particularly to marine and coastal, is a major challenge encountered pertaining to biodiversity conservation in Myanmar. Furthermore, development of a National Biodiversity Strategy and Action Plan (NBSAP) and its implementation is an urgent need of Myanmar.

Keywords: dugong, Lampi, marine national park, Myanmar

INTRODUCTION

Dugong is ranked as "vulnerable" at the global scale by IUCN Red List of Threatened species. Its estimated range was 128,000 kilometres of coastline in 38-45 countries. Occurrence of dugong in the Rakhine coastal region in western Myanmar has been well informed and documented Aye, 2004; Ilangakoon and Tun, 2007; Tun and Ilangakoon, 2006 and 2007; Tun, Ilangakoon and Pe (2009) but information from the Tanintharyi coastal area in southern Myanmar is scarce.

The Union of Myanmar has designated a total of 35 protected areas including four marine protected areas (MPA) throughout the country so far (Fig. 1 and Table 1). Two MPAs are situated in Ayeyarwaddy Region and the other two are situated in Tanintharyi Region. Although dugong information has been mainly received from the Rakhine coast, MPAs have not been established in that coastal area yet.

Lampi Marine National Park is situated on the Myeik Archipelago in southern Myanmar and its geographical coordinates are Longitude. 98° 04'E - 98° 18'E and Latitude 10° 41' N - 10° 49' N. It was established in 1996 and it was designated as one of the ASEAN Heritage Parks of Myanmar in 2003. Field trips to the Lampi Marine National Park and Nyaung Wee Island were made in 2008, 2009 and 2010. Dugong information was collected by interviews with local people (Fig. 2) and observation on seagrass beds during the various

trips in order to provide information to develop dugong conservation and management in Myanmar.

TRADITIONAL BELIEF

Salone ethnic people who are also known as sea nomads, have traditional believe relating to dugong since the time unmemorable. They believe that if a child dies he/she can become a dugong in the next life.

Some people from Tanintharyi Region said that they found an animal which had a dolphin body and pig-like face. Flippers of that animal were changing to fore limbs by forming bones inside, but the tail still looked like the dolphin fluke and it was crawling in very shallow water of the beach. They believe that it is the transitional phase from dolphin to terrestrial pig. Their reason is that no one put the pigs on isolated islands and, therefore, those pigs are certainly transformed from the dolphin. Many people have such kind of traditional knowledge since the time unmemorable. Those animals are assumed to be dugongs. However, belief, ceremonial and traditional use of dugongs by Andaman Islanders about 100 years ago had been well documented (Radcliffe-Brown, 1967).

DUGONG DISTRIBUTION IN SOUTHERN PART OF MYEIK ARCHIPELAGO

In the light of information gathered during the various visits to Lampi Marine National Park and Nyaung Island, dugongs are observed at Sular Islands, La Ngan group, Pale Kyuun Island, Lampi

Island, Bo Lut Islands and Nyaung Wee Islands in southern part of the Myeik Archipelago (Fig. 3).

DUGONG STRANDING INFORMATION

Dugong stranding information was first given by two Salone ethnic people from Nyaung Wee village in the January 2008 trip to Lampi (Fig. 4). He and his grandson reported that they found a stranded dugong on the east coast of Nyaung Wee village among the mangrove which was adjacent to a seagrass bed (Fig. 5).

During the trip to Lampi in February – April, 2010, a dugong stranding was informed by a villager on 27th. March at about 9:00pm at Ma Kyone Galet village. According to the information, the villager who found the stranding was a Salone ethnic, who saw the stranded dugong at Wa Kyuun when he went fishing around the island (Fig. 5). It was too late to find a boat and the tide was rising. Therefore, the animal could float again and could escape from stranding by drifting with flood tide. Attempts to go to the stranding site and to find the animal were given up.

DUGONG TRAILS

In response to the dugong stranding information received from the Salone grandfather and grandson of Nyaung Wee village, the clue of the dugong occurrence was taken notice of whenever seagrass beds were visited. Previously, some dugong information from Tanintharyi Region is anecdotal.

Dugong feeding trails were found for the first time in dense patches of *Halophila ovalis* in Nyaung Bin Aw (Khe Taung Aw) on the east coast of Lampi Island in March 2008 (Figs. 5 and 6). Some trails were found in the same area of Lampi Island and east coast of Nyaung Wee Island during the November-December trip in 2008.

Recently, dugong trails were found again at Lampi Island on 25 November 2010 and waypoint of the location is recorded as Latitude 10°43'46.6''N and Longitude 98°17'28.4''E. All dugong feeding trails were found at the area where *Halophila ovalis* is the dominant seagrass species. These trails are evidence of dugong occurrence on the Myeik Archipelago of Tanintharyi Region in southern Myanmar.

CONSERVATION AND MANAGEMENT

Dugongs are protected by law in Myanmar since 1994. The title of the law is “The Protection of Wildlife and Protected Areas Law” but it is also known as “Wildlife Law”. In accordance with the Law, a list of Protected Animals was notified by the Forest Department on 26 October 1994. Irrawaddy dolphin *Orcaella brevirostris* and dugong *Dugong dugon* are listed as Completely Protected Animals.

At present, threats cannot be identified for the Tanintharyi dugong population but blast/dynamite fishing can be assumed as a threat to dugong because such destructive fishing method has been used by some fishermen in that area. Blast fishing is an illegal fishing method. However, some set net fishing and seacucumber collection activities by local fishermen and villagers were observed on the seagrass beds of Lampi Marine National Park and Nyaung Wee Island.

Myanmar became one of the first signatory states of “Memorandum of Understanding on the Conservation and Management of Dugongs and their Habitats throughout their Range” by signing the Memorandum of Understanding (MoU) on 31 October 2007. Myanmar participated in the south-east Asia regional dugong questionnaire survey and attended the First Official Signatory States Meeting (SS1) in 2010.

As some activities of work programme for 2011 and 2012, the UNEP/CMS dugong secretariat will facilitate other regional activities to improve information on the distribution and abundance of dugongs and their habitats and will work with relevant regional initiatives and partners to maintain momentum in dugong conservation and management activities (UNEP/CMS, 2011).

Lack of promotion in effective and scientific management of protected areas, particularly to marine and coastal ecosystems, is a major challenge encountered pertaining to biodiversity conservation in Myanmar. Furthermore, development of National Biodiversity Strategy and Action Plan (NBSAP) and its implementation is an urgent need of Myanmar (National Commission for Environmental Affairs, 2009). To respect traditional knowledge in order to incorporate in the area of community based natural resource management is an activity identified by Myanmar and it will be conducted by biodiversity related institutions and stakeholders.

Though Myanmar is a signatory state of the dugong MoU, effective conservation activities on dugong have not been carried out by Myanmar yet. Therefore, while further research on dugong and its habitat has been needed, dugong information and observation on seagrass beds from the various trips to the Lampi Marine National Park are important messages to formulate dugong conservation and management in Myanmar. Furthermore, present information will contribute not only to the development of conservation and sustainable management of the Lampi Island Marine National Park but also to the activities of dugong MoU.

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Table 1. Marine Protected Areas of Myanmar.

Sr. No.	Site name	National Designation	Establishment Year	Area (km ²)	International Status	Location	Main protected animals
1	Moscov Island	Wildlife Sanctuary	1927	49.20		Tanintharyi Region, Dawei District	Barking deer, Sambhur deer, Swiftlets
2	Thamihla Kyuun	Wildlife Sanctuary	1970	0.88		Ayeyawaddy Region, Ngaputaw Township	Marine turtle
3	Mainmahla Kyuun	Wildlife Sanctuary	1993	136.74	ASEAN Heritage Park	Ayeyawaddy Region, Bogalay Township	Mangroves, Crocodile and Birds
4	Lampi	Marine National Park	1996	204.90	ASEAN Heritage Park	Tanintharyi Region, Bokepyin Township	Coral reefs, Mouse deer and ethnic culture
	Total			391.71			

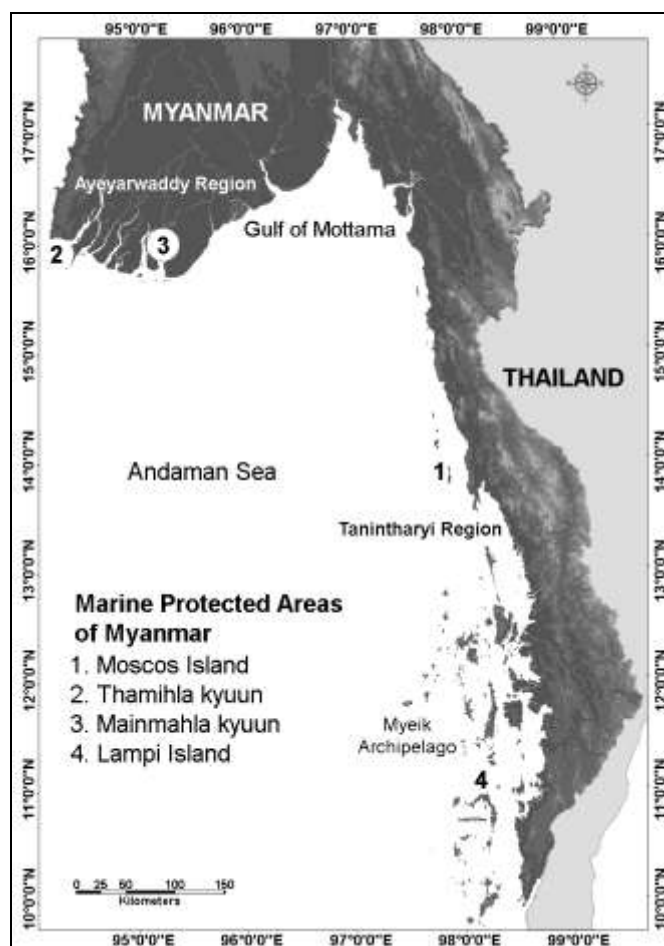


Figure 1. Map showing the marine protected areas of Myanmar.



Figure 2. An interview with local Salone ethnic people



Figure 3. Salone grandfather and his grandson from Nyaung Wee village informed the stranding of a dugong at Nyaung Wee Island.

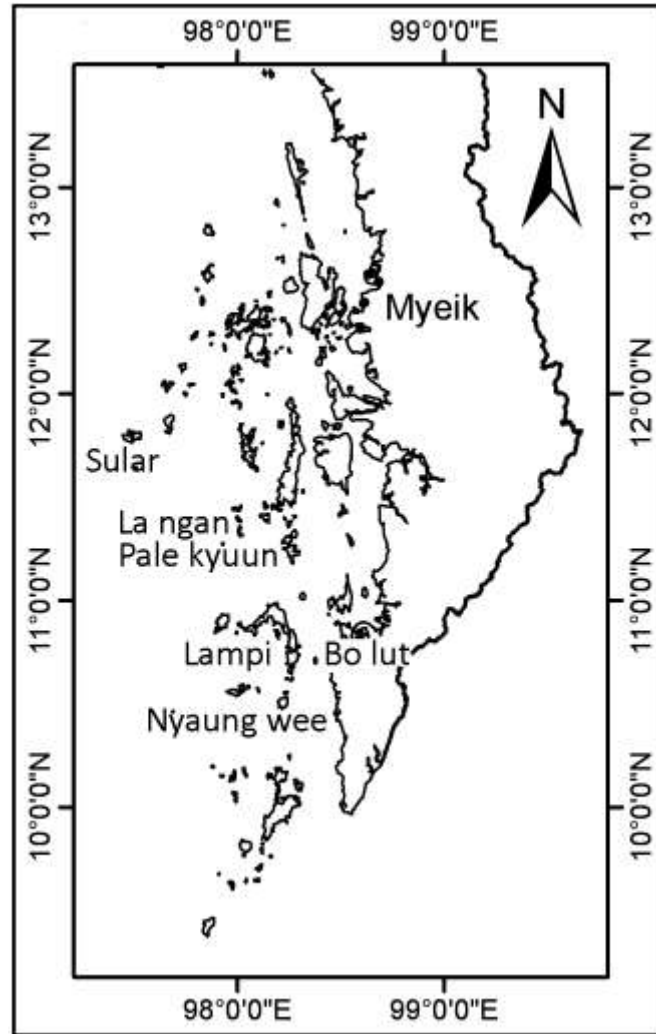


Figure 4. Distribution of dugong in southern part of Myeik Archipelago.

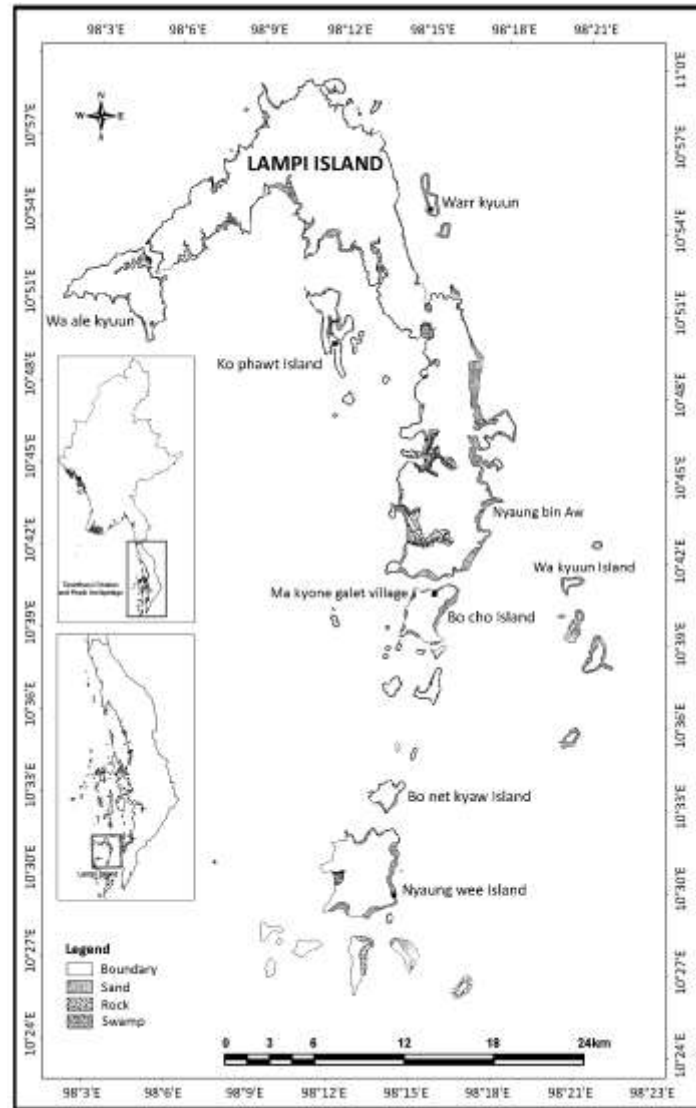


Figure 5. Map showing the locations of dugong trails and dugong strandings.



Figure 6. Dugong trail found at Lampi Island (March, 2008).